

amendment to the general management plan

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NATIONAL RECREATION AREA • NEW YORK / NEW JERSEY

amendment to the general management plan

october 1990

GREAT KILLS PARK
STATEN ISLAND UNIT
GATEWAY NATIONAL RECREATION AREA • NEW YORK/NEW JERSEY

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

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INTRODUCTION

In December of 1989, the National Park Service (NPS) prepared and made available for review a draft amendment and impact analysis to the 1979 *General Management Plan* (GMP). The purpose of the amendment was to update the GMP to reflect changes in conditions at Great Kills Park. The amendment presented three alternatives to the GMP proposal for Great Kills Park, including a preferred alternative, an alternative with minimal development, and a no-action alternative.

This document outlines the NPS proposed plan for development at Great Kills Park. This proposal, although slightly different than the preferred alternative in the draft amendment of December 1989, is still considered to be categorically excluded from NEPA procedures under 516 DM6, appendix 7.4.A(1): "changes to an approved plan when such changes would cause no or minimal environmental impact."

PURPOSE OF AND NEED FOR THE AMENDMENT

This document is an amendment to the Great Kills Park development concept plan portion of the 1979 *General Management Plan* (GMP) for Gateway National Recreation Area. The GMP proposed improvements to circulation patterns, facility and open space designs, and the natural environment of the Great Kills area.

The purpose of this amendment is to update the GMP to reflect changes in conditions at Great Kills Park. The primary concern is the proposed treatment for the bathhouse. Since completion of the 1979 plan, the landforms within the park have been modified through natural processes, and these modifications, particularly on the ocean side, have made GMP development proposals related to the shoreline impractical. Specifically, the shoreline in front of the bathhouse has eroded to such an extent that access to portions of the building has been eliminated and the building is in danger of being isolated from the land; therefore, rehabilitation of the bathhouse, as proposed in the GMP, is no longer an appropriate treatment.

A number of other concerns addressed in the 1979 GMP have also been considered in this amendment. These concerns include the following:

South beach and harbor front parking and the marina are all located in the same area of Crookes Point. The present concessioner-operated marina is operating at full capacity. These locations require that the majority of visitors converge on the same point at the same time.

The single paved entrance road not only causes access problems (becomes congested during peak use, causes problems for emergency vehicles, and does not permit separation of beach and marina traffic) but is rapidly degrading to the point where maintenance is a continuing problem. Major reconstruction is needed, but because the city owns the road, an ownership problem exists that needs to be resolved.

The lack of marked parking areas results in indiscriminate vehicle parking, reduced parking capacity, and damaged vegetation.

A significant diversity of plant and animal life exists in Great Kills Park. Protection of the park's natural areas will be enhanced by improved interpretive and environmental education programs for visitors.

The range of land-based activities and length of visitor season are limited by inadequate facilities and amenities, including trails, shelters, picnic areas, and restrooms.



LOCATION

GREAT KILLS PARK STATEN ISLAND UNIT

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

The following approved planning documents support the park's development and use:

Statement for Management and Environmental Assessment, April 1976

Interpretive Prospectus, June 1978

Final Environmental Statement, August 1979

General Management Plan, August 1979

Resource Management Plan, October 1980

This amendment will provide management with the flexibility needed to develop appropriate levels of programs and facilities as environmental conditions and use patterns change over the next few decades.

PARK DESCRIPTION

Great Kills Park is on the southeastern shore of Staten Island, New York, and consists of an upland area; Crookes Point, a sand spit; the harbor behind the spit; and the beach area along the southeastern side of the spit. During the early 20th century the spit was breached and formed an island (see the Prelandfill Conditions map). In the 1930s and 1940s a harbor bulkhead was constructed, and Crookes Point was attached to the mainland; this was accomplished by filling the breached area with sand from dredging operations in the Great Kills Harbor and inlet channel. Also during the 1940s the upland area was raised to an elevation of 35 feet by adding sanitary landfill, which buried much of an existing salt marsh behind the beach (see the Park Areas and Sanitary Landfill Location map). The landfill has subsequently become overgrown with dense stands of reed grass (*Phragmites communis*), commonly known as phragmites.

Great Kills Park was officially opened as a New York City park in 1949, and construction of the bathhouse was started. The debris-laden waters around the park at first failed to attract recreationists, and the park remained a favorite haunt of vandals as well as an ideal site for dumping cars and other illegal activities. However, by the late 1960s, as the waters of the lower New York Harbor became clean enough for swimming and Staten Island became more densely populated, Great Kills Park had evolved into a popular beach area for nearby residents.

In 1972 Great Kills Park was designated as part of the newly established Gateway National Recreation Area, forming a portion of the Staten Island unit.

Great Kills Park provides attractions for more than 500,000 visitors each year. Facilities support a variety of recreational activities, and there are undeveloped shoreline areas where visitors can learn, study, fish, explore, or just relax and enjoy the harbor setting. The park also provides interpretive activities for the general public and serves as a major environmental education site for New York City schoolchildren and organized groups. The swimming season is short (Memorial Day to Labor Day), and one of the park's objectives is to provide more land-based activities so that the length of the visitor season can be extended.

The following sections describe the immediate environment of Great Kills Park, its resources, facilities, and present use. Detailed information about the natural resources of the area is in the 1976 *Statement for Management and Environmental Assessment*, the 1979 *Final Environmental Impact Statement*, and the 1979 *General Management Plan*.

NATURAL RESOURCES

Uplands

The majority of the northern uplands section of Great Kills Park is extensively covered with vegetation. Fields of phragmites are interspersed with large areas of shrub thickets and scattered trees such as black cherry, mulberry, aspen, cottonwood, and grey birch. Along the entire boundary south of Hylan Boulevard there is a well developed deciduous forest averaging 150 feet wide; the forest grades into shrub thickets, early successional woodlands, and

grasslands to the south. The landfill portion of the site has been severely disturbed and will require decades to leach out its pollutants and build a more natural soil base.

A large portion of the Crookes Point area is classified as uplands (see the Floodplains map) with dune and mixed shrub-grassland communities. This area provides an important habitat for monarch butterflies during their migration. Scars cut through the vegetation by off-road vehicles have been healing since off-road vehicle use was discontinued in this area.

Wetlands

There are three freshwater wetland areas within the Great Kills Park boundary. These areas are designated as POW (palustrine open water), PEM (palustrine emergent), and PFOI (palustrine forested - broad-leaved deciduous). These small areas, which are shown on the Wetlands map, provide wildlife habitat.

The POW area on the northeast side of the park, across from the sewage treatment plant, is approximately 2.75 acres in size and was once used to store sewage sludge. Since construction of the new plant, the ponds have been used to store excess storm sewer water resulting from rare heavy storm conditions. During the normal spring wet season, this area could be considered a wetland with a marshlike environment. The area attracts roosting black-crowned night herons. The dominant vegetation consists of phragmites, mugwort, red elderberry, and pokeberry.

The area designated PEM is much larger than indicated on the official Wetlands map and may reach 6 acres in extent. This wetland is dominated by phragmites on its margins, but its interior contains significant open water, marsh fern, sedges, duckweed, and other submergent vegetation. There are several muskrat channels running through it, and there are both active and inactive muskrat lodges. In addition to the waterfowl, this wetland (particularly its southwestern lobe) is the only site in Great Kills to find breeding Fowler's toads. The toads use this marsh for courtship, mating, egg deposition, and tadpole development. Another amphibian species, the spring peeper treefrog also uses this wetland as its primary breeding area.


The last freshwater wetland site, PFOI, is in the northeast corner of the park. This small wetland begins approximately 200 feet southwest of the intersection of Hylan Boulevard and the existing park entrance road. It encompasses approximately 1 acre, and although it is not really considered a wetland, it contains a small depression that could collect water during the rainy season. The area contains upland tree species dominated by sassafras, black cherry, staghorn sumac, and ailanthus.

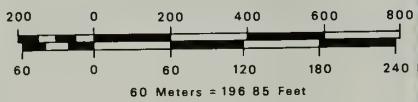
Besides the wetland areas depicted on the Wetlands map, there are two drainage swales (shallow, slow-moving bodies of freshwater). The first, in the vicinity of the PFOI area, runs southwest and parallel to Hylan Boulevard and then flows into Great Kills Harbor. The second swale drains south along the park's eastern edge into the lower New York Harbor. The drainage swales contain areas of cattail marsh and phragmites marsh, as well as sections of shrub-lined streams, including pools, riffles, and bars. The drainage swales are, however, polluted and heavily littered.

PRELANDFILL CON STATEN ISLAND UNIT/

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR /

SOURCE:
CITY OF NEW YORK DEPARTMENT OF PARKS
"SKETCH SHOWING WATERSHED AREA INTO
KILLS HARBOR MARINE PARK" JULY 31, 19

 1936 LAND AREA

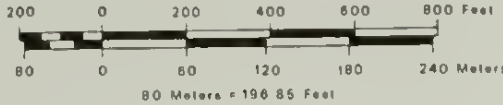


PRELANDFILL CONDITIONS
STATEN ISLAND UNIT/GREAT KILLS PARK

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE

SOURCE
CITY OF NEW YORK DEPARTMENT OF PARKS
"SKETCH SHOWING WATERSHED AREA INTO GREAT
KILLS HARBOR MARINE PARK" JULY 31, 1936

1936 LAND AREA



646 40 2338
OSC DEC 86



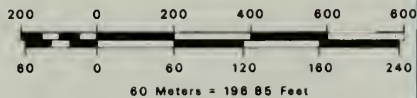
PARK AREAS AND SANITARY LANDFILL LOCATION

STATEN ISLAND UNIT/GREAT NECK

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR



APPROXIMATE BORDER OF SANITARY LANDFILL
(AFTER S. JOHNSON, 1985)



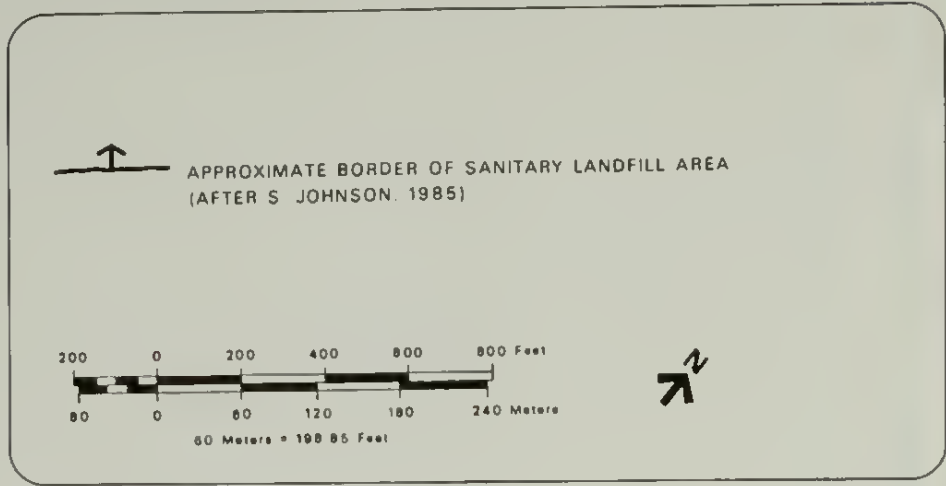
CROOKES POINT



PARK AREAS AND SANITARY
LANDFILL LOCATION

STATEN ISLAND UNIT/GREAT KILLS PARK

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE

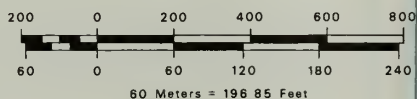


FLOODPLAINS MAP STATEN ISLAND UNIT/

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR

- ZONE A 100-YEAR BOUNDARY
- ZONE B 500-YEAR FLOOD BOUNDARY
- ZONE C AREAS OF MINIMAL FLOODING
- ZONE A7 Areas of 100-year flood;
base flood elevations and flood hazard

BASIC DATA:
FLOOD INSURANCE RATE MAP PANEL 126, SE



NE A7

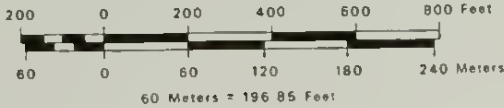
FLOODPLAINS MAP

STATEN ISLAND UNIT/GREAT KILLS PARK

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE

- ZONE A 100-YEAR BOUNDARY
- ZONE B 500-YEAR FLOOD BOUNDARY
- ZONE C AREAS OF MINIMAL FLOODING
- ZONE A7 Areas of 100-year flood,
base flood elevations and flood hazard factors determined

BASIC DATA
FLOOD INSURANCE RATE MAP PANEL 126, SEPT. 30, 1982



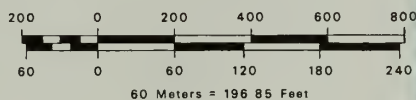
646 40 2608
OSC DEC 85



WETLANDS STATEN ISLAND UNIT/

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR

E2FL	ESTUARINE INTERTIDAL FLAT
PFOI	PALUSTRINE FORESTED (BROAD LEAFED
PEM	PALUSTRINE EMERGENT
E2BB	ESTUARINE INTERTIDAL BEACH BAR
U	UPLAND (NON-WETLAND)
EIOW	ESTUARINE SUBTIDAL OPEN WATER
POW	PALUSTRINE OPEN WATER
E2EM	ESTUARINE INTERTIDAL EMERGENT



WETLANDS

STATEN ISLAND UNIT/GREAT KILLS PARK

GATEWAY NATIONAL RECREATION AREA
UNITED STATES DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE

E2FL

ESTUARINE INTERTIDAL FLAT

PFOI

PALUSTRINE FORESTED (BROAD LEAFED DECIDUOUS)

PEM

PALUSTRINE EMERGENT

E2BB

ESTUARINE INTERTIDAL BEACH BAR

U

UPLAND (NON-WETLAND)

EIOW

ESTUARINE SUBTIDAL OPEN WATER

POW

PALUSTRINE OPEN WATER

E2EM

ESTUARINE INTERTIDAL EMERGENT

2000200400600800

Feet

600120180240

Meters

60 Meters = 196.85 Feet

↑

N

64640,259 B
DSCSEP 89



The other four wetland areas are considered estuarine areas and are described in the following "Shoreline" section.

Shoreline

The southern shoreline of Staten Island was formed by headland erosion and littoral drift that created a barrier beach. The dynamic nature of the shoreline can be seen by comparing historic maps and records data. The present spit has retreated approximately 900 feet landward from its position in 1836 when it protected the salt marsh that had formed behind it. The present peat outcrop is a remnant of that marsh.

Along the beach side of Great Kills is a small dune system that could be a remnant of a larger system that existed before Crookes Point was attached to the mainland. Over the years the area experienced increasing visitation without a natural resource management strategy, and the dune system became so stressed that, for all practical purposes, it does not now reflect what was once a vital component of the overall ecosystem. Typical dune vegetation exists within the system, and with a proper management strategy the dunes could begin to recover naturally.

The southwest/northeast-oriented shoreline described on the Wetlands map as areas E2FL (estuarine intertidal flat - basically the Atlantic Ocean) and E2BB (estuarine intertidal beach bar - unvegetated sandy beach) is exposed predominantly to low wave energy because of its partly protected position in lower New York Bay. The beach areas contain bird species such as gulls, sanderlings, and dunlins that feed on the tide line in the winter. In the intertidal flat many species of wading and shore birds can be seen when the tide is out. During an incoming tide, diving birds are prevalent.

The salt marsh peat outcrop is also a part of the intertidal flat system in the area directly in front of the old beach house. This area is rich in nutrients, and the deposits provide habitat for many plants and animals other than birds. The detritus-laden waters influence a large part of the total beach ecosystem. Some of the most dominant plant species include sea lettuce, hollow green weeds, and *Spartina*. There are also various species of mollusks, bivalves, annelid worms, arthropods, and fish.

During storms, large ocean waves passing between Sandy Hook and Breezy Point are focused directly at the Great Kills area. The southerly transport of sand is usually minimal because of the low wave energy, with substantial transport occurring only during storms. Very little sand removed from the bathhouse area during storms is replaced because of the low wave energy. In addition, the salt marsh peat outcrop just north of the bathhouse and the groins and jetties farther north along the shore prevent longshore sand transport into the bathhouse area. The result of these processes is the erosion of the shoreline at the bathhouse. It has been determined from test pits that the sanitary landfill is far enough from the eastern shoreline that it is not threatened by erosional processes.

Sand eroded from the bathhouse area has accreted updrift of a jetty at Crookes Point. Although the jetty was extended in 1958, the jetty compartment was filled by the early 1970s. Sand has since drifted around the jetty and been deposited on the west side of Crookes Point and in the navigation channel.

The last estuarine wetland area, described as E2EM on the Wetlands map, is between the beach east of the bathhouse and the old sewage plant overflow ponds. Part of the POW area drainage swale is associated with this area as the swale flows southward. The area depicted on the map encompasses an area well beyond the limit of the swale and its wetlands. Along the swale proper, the dominant wetland species is phragmites. On drier ground red elderberry and mugwort are present.

Because the drainage swale is steep-sided, its aerial extent is less than shown on the map. The remainder of the area depicted on the map is uplands dominated primarily by red mulberry, staghorn sumac, evening primrose, white clover, and common mullein. This area is managed to retain its existing characteristics; it will continue to be protected and allowed to proceed as natural succession dictates.

Water Quality

In 1975 the National Marine Fisheries Service sampled offshore waters for faunal diversity. The samples taken included a large number of juvenile and adult worms, clams, crabs, and shrimp. This broad supply of food sources for fish populations in the bay system indicated that the habitat was not badly stressed by pollutants. Recent monitoring by the National Park Service shows that until 1988 there had been a qualitative improvement in water quality at the Staten Island beaches. These waters are generally safe for swimming, but most beach users prefer to sunbathe only. Over the past few years, sewage outfall or floating waste have required that the beaches be closed. Should this situation continue to worsen, beach oriented visitor services may be reduced or eliminated. Past water quality data from the New York State Department of Environmental Protection (DEC) classified the waters of the park and adjacent areas as class SB (surface saline waters suitable for primary and secondary contact recreation and any other use except for taking shellfish for market purposes). As of May 1, 1989, the New York State DEC has authorized commercial harvesting and relaying of the hardshell clam (*Mercenaria mercenaria* L.) from Great Kills Harbor for depuration purposes. The clams are removed from New York State waters; however, clams are not allowed to be taken from NPS waters.

Vegetation

Most of the uplands in Great Kills Park are disturbed reed grass (phragmites) marsh and mixed grasslands with thickets of small trees and shrubs. Phragmites is an effective invader of disturbed areas, especially dredge spoils. Phragmites is receding in dominance as it is replaced by pioneering shrub and tree species. Areas within Great Kills Park that pond water exhibit diverse vegetation.

In the upland areas of southern Staten Island, surveys have shown a dominance of American hackberry, with widespread Carolina poplar, bigtooth aspen, and pin oak. A wooded area along Hylan Boulevard contains sweetgums, tulip poplars, blackgums, elms, and red cedar.

Upland areas of Crookes Point have been severely disturbed by visitor use but still retain thickets of bayberry, beach plum, sumac, hackberry, and black cherry. The front dune/beach environment is dominated by dune grass, seaside goldenrod, sea rocket, prickly pear cactus,

and beach cocklebur. The rear dunes contain shrub and thicket growth dominated by bayberry, Virginia creeper, and poison ivy.

Wetland species in the marsh areas include phragmites, cattails, and various types of marsh grasses. Vegetation in the low-lying deciduous forest includes red elderberry, mugwort, pokeberry, and black cherry as overstory vegetation. Understory vegetation includes species such as multiflora rose, field garlic, and common blue violet. The salt marsh peat outcrop and offshore areas contain rockweed and sea lettuce. These two algae species aid in stabilizing the shoreline and provide cover for small benthic invertebrates.

There are several environmentally sensitive areas, including the salt marsh peat outcrop along the shore, the remnants of the original drainage area, the dune system, and other wetlands.

Wildlife

Lists of mammals, birds, reptiles, amphibians, finfish, and benthic invertebrates have been prepared by the National Park Service and U.S. Army Corps of Engineers. The vegetation types discussed above provide habitat for a variety of wildlife species.

There are over 81 species of birds, including ducks and other water birds, hawks, owls, and several passerine species. Most are residents, seasonal residents, or transients in the shore zone. Open areas of beach grass provide habitat for large numbers of amphibians and reptiles. Diamond-backed terrapins (turtles) are found at the harbor on Crookes Point and are considered a species of critical concern in New York State. Green frogs and Fowler's toads are found in shaded areas south of Hylan Boulevard. Small mammals that do not require large areas of cover are still numerous, including brown bats, chipmunks, shrews, gray squirrels, deer mice, meadow voles, muskrats, rabbits, and opossum. Crookes Point contains the most diverse vegetation in the park and is an important habitat for migrating birds and insects, particularly the monarch butterfly. Spring peeper, eastern garter snake, northern brown snake, snapping turtle, and eastern painted turtle have been found. The spring peeper, along with the Fowler's toad, breeds in the PEM and spends the rest of the year in various upland habitats. The two snake species are found in the uplands also. The snapping turtles occur in the drainage swales.

The aquatic habitats of the park and adjacent areas provide a rich variety of estuarine, saltwater, and freshwater plants, vertebrates, and invertebrates. The harbor and shore environments have submerged areas that are extremely sensitive to physical disturbance and pollution. Most of the wetlands in the park lie within the 100-year flood hazard zone.

EXISTING CONDITIONS AND VISITOR USE

The Gateway region is most often under a continental influence, with a dominant westerly airflow. Near the coastline, temperatures over land and water vary substantially. Breezes are most pronounced during the summer months, encouraging sailboating in the harbor. Precipitation on Staten Island averages about 50 inches per year. The greatest rainfall occurs during the summer months, but the area has a fairly even year-round distribution. There is often steady rain or snow during the winter. Sites exposed to onshore winds receive more

frequent and generally greater amounts of precipitation, which affects visitation and types of activities.

Park activities at Great Kills include boating, windsurfing, sunbathing, swimming, bicycling, jogging, walking, bird-watching, fishing, model airplane flying, field sports, interpretation, and environmental education. There are an average of 7,500 visitors on heavy use days; on peak days, visitation approaches 10,000. The most concentrated visitor use occurs during the five warm months (May through September), when the park receives 90 percent of its yearly total.

The bathhouse, designed as the nucleus of the park, is a large brick structure about 2 acres in size with a concrete foundation supported by approximately 1,600 piles. The building houses maintenance equipment, a conference room, public restrooms, a first-aid station, a visitor contact center, interpretive exhibits, and space for concessioners, lifeguards, and other park personnel. The building is being undermined by severe shoreline erosion that threatens access to the structure. Part of the bathhouse is without a land base, extending over the ocean on exposed pilings. The ocean wave action is causing the piles to shift, rendering portions of it unusable because of structural stability. Sewer lines periodically collapse due to erosion and shifting piles.

Other park facilities include a paved 600-car parking lot adjacent to the bathhouse (with traffic crossing diagonally through the lot), a 250-car graveled overflow lot, the north and south beach centers (concession facilities with public restrooms), a concessioner-run marina of 350 slips and 350 parking spaces, and 1 mile of two-lane access road. A dirt access road provides access to a 60-car parking area on Crookes Point; this area is used by fishermen with permits. The model airplane field, five ballfields, track, and various hiking trails have separate parking areas. A buried New York City sewage line runs diagonally through the park toward a municipal sewage treatment plant at Fresh Creek on the eastern border of the park. Former stormwater storage ponds, identified here as wetland areas, are on park land near the neighboring sewage treatment plant. The park interior is crisscrossed with old trails and the scars of roads caused by unauthorized off-road vehicle use. This use is now controlled by management actions. Visitors park indiscriminately while fishing or attending sports events because parking areas are not clearly marked. Measures to control these activities are being taken.

Most access to the site (93 percent) is by automobile. About 4 percent of the visitors come by bicycle – the highest percentage of all Gateway units. Daily bus access is provided seasonally from mid-June through Labor Day on the S-103S line along Hylan Boulevard. In the summer the city bus runs to the central parking lot. During the peak summer season the access road is too small to handle the increased traffic, resulting in traffic congestion and problems for emergency vehicles at the intersection with Hylan Boulevard.

THE PROPOSED PLAN

Following is a summary of the major actions in the proposed plan for developments at Great Kills Park. The proposed plan is basically the same as the preferred alternative of the December 1989 draft.

The entrance road will be maintained, and a second road will be constructed farther south to form a circulation loop. All utilities will be provided as required.

The existing bathhouse will be replaced by a new visitor center, accommodating administrative services and space for environmental education programs and community meetings; near the center will be new U.S. Park Police and park maintenance buildings.

An expanded south beach center will replace the existing facility adjacent to the marina. A 580-car parking lot will serve the center, the marina, and the harbor front.

The marina will be relocated to a new site at the northeastern end of the bay. The marina relocation will be done only after extensive studies are conducted by the Park Service relative to the old landfill site and water depth and dredging requirements. The marina will be relocated only after the site is planned, graded, and the basic utilities are provided. A boat launch and vehicle/boat-trailer parking area are provided at the east end of the harbor.

On the harbor side of Crookes Neck, the bulkhead near the existing marina will be rehabilitated or reconstructed (phase 1 of the reconstruction or rehabilitation is already complete), and a walking/biking promenade and access road with parking will be established. The small parking lot for 40 vehicles and two buses at the terminus of the existing Crooks Point access road will be maintained. The rest of Crookes Point will be managed to reestablish natural conditions.

The salt marsh peat outcrop and stream mouth will be managed as a protected zone (see Management Zones map).

The parking situation will become more structured, with the total number of spaces remaining approximately the same. The existing traffic circulation pattern will be better defined within the entire Great Kills unit.

More details of the Great Kills plan are in the 1979 *General Management Plan, Gateway National Recreation Area*.

This amendment differs from the 1979 GMP in its proposal for the bathhouse. Demolition is recommended, rather than stabilization and renovation of the structure as proposed in the GMP, because the land surrounding the bathhouse is unstable and eroding at a rapid rate. Facilities and services currently proposed for the bathhouse will be incorporated into an expanded south beach center, a new visitor/interpretive/administrative center, and new U.S. Park Police/maintenance buildings. Other major differences from the GMP include relocating

some parking areas, changing the distribution of spaces, and constructing an amphitheater, picnic areas, and a playground.

Like the GMP, this plan (see Proposed Plan map) proposes relocating the marina, constructing a public boat launch area (opened in summer 1990), establishing a promenade along the bulkhead, removing the north beach center, enlarging the south beach center, and improving parking and circulation. All facilities will be designed for access by handicapped people. Until further planning and evaluation, the marina will remain at its current size (approximately 350 slips) in its current location.

BATHHOUSE

The rapid erosion of the beach in front of the bathhouse has restricted access to the building and threatened the structure. Therefore, demolition of the bathhouse, utility lines, and access and relocation of its functions and activities is proposed. The bathhouse site will be completely cleared and revegetated. A foundation east of the bathhouse will be removed and revegetated, and the dunes restored. The bathhouse parking lot will be modified to serve general visitors to the lawn and picnic areas, visitor center, and amphitheater. This lot will also provide overflow parking for the boat launch and Crookes Neck area.

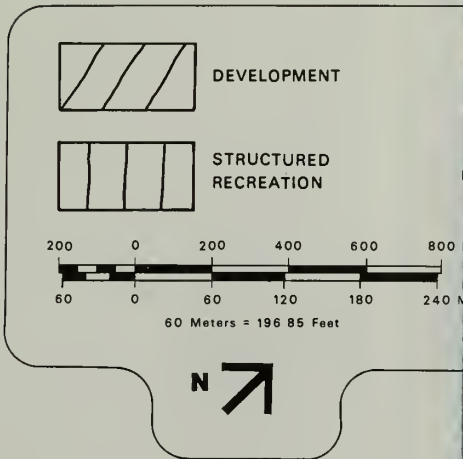
The visitor services proposed for the bathhouse in the 1979 GMP will be relocated to the south beach center on Crookes Neck. The center will provide food service, outside showers, sheltered seating and eating space capable of accommodating school groups, restrooms, and a first-aid lifeguard facility. Nearby high use areas will be posted to alert visitors to erosion problems. Boardwalks will be built over sensitive areas, and fencing will be placed to control access to otherwise unprotected dunes.

U.S. Park Police and maintenance functions currently in the bathhouse will be relocated to two new buildings on the northern end of the overflow parking area. The police area will include offices, lockers, stables, and a detention area. The facility will serve as headquarters for the Staten Island unit's resource management activities and maintenance functions and will have an office, supply and storage rooms, a fire cache, a locker and lunchroom, and shops for automotive, electrical, and plumbing repair needs. The police/maintenance area will be fenced for security and landscaped. Garages and a courtyard will be provided for police and maintenance vehicles.

A new visitor center, to be located near the Great Kills Harbor end of the bathhouse overflow parking lot, will constitute the principal NPS presence on Staten Island. The primary purpose of the new center will be as an educational facility to serve organized groups and to provide visitor orientation/information and permits. It will also provide park administration offices, and community meeting space. The facility will provide general information about Gateway National Recreation Area and specific orientation to the Staten Island unit. It will include a meeting/conference room, an education facility for environmental programs, exhibit and audiovisual space, and offices and additional space for interpretive and other park staff. An observation area and sky interpretation facility might be incorporated.

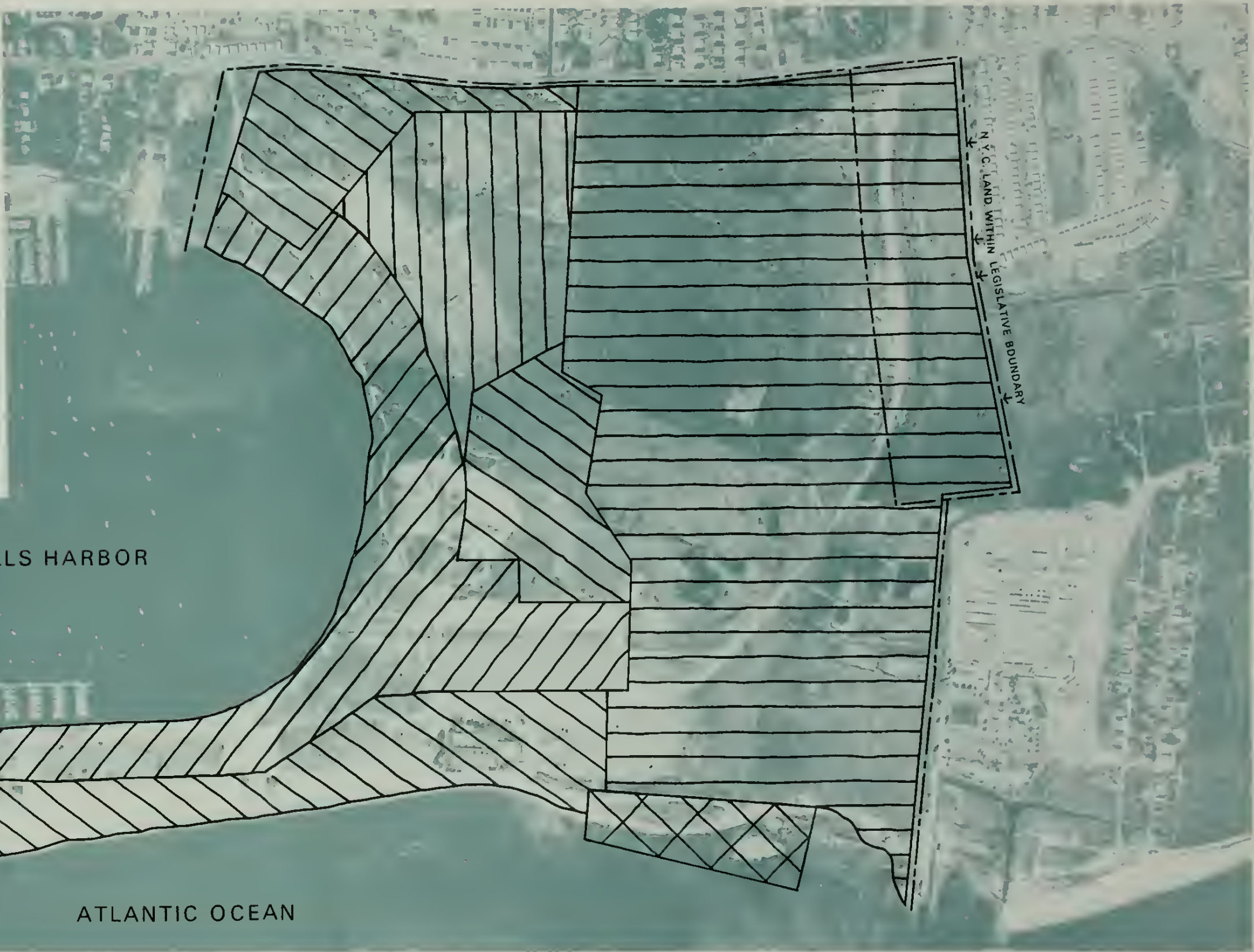
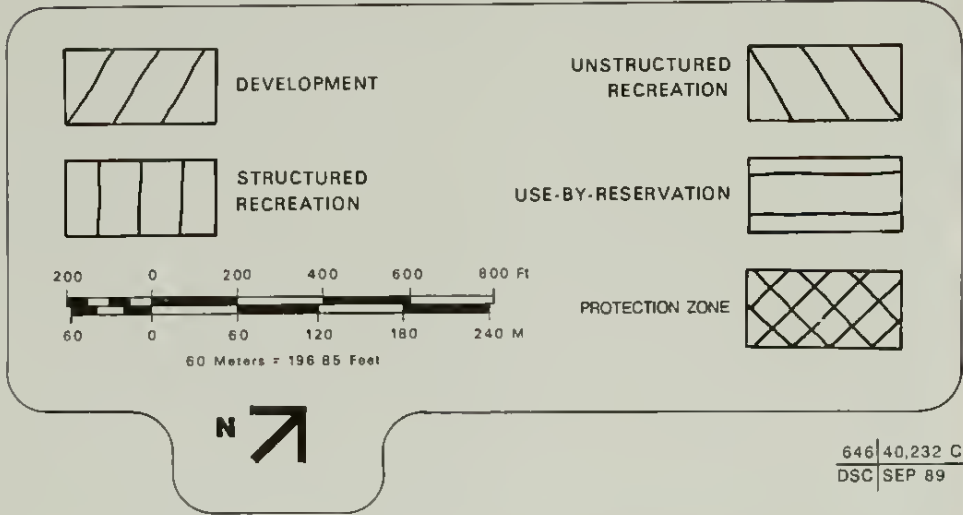
MANAGEMENT ZONE (FROM THE GATEWAY NRA GENERAL

STATEN ISLAND UNIT/
UNITED STATES DEPARTMENT OF THE INTERIOR/



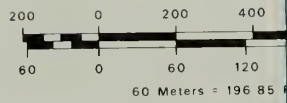
MANAGEMENT ZONES
(FROM THE GATEWAY NRA GENERAL MANAGEMENT PLAN)

STATEN ISLAND UNIT/GREAT KILLS PARK
UNITED STATES DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE



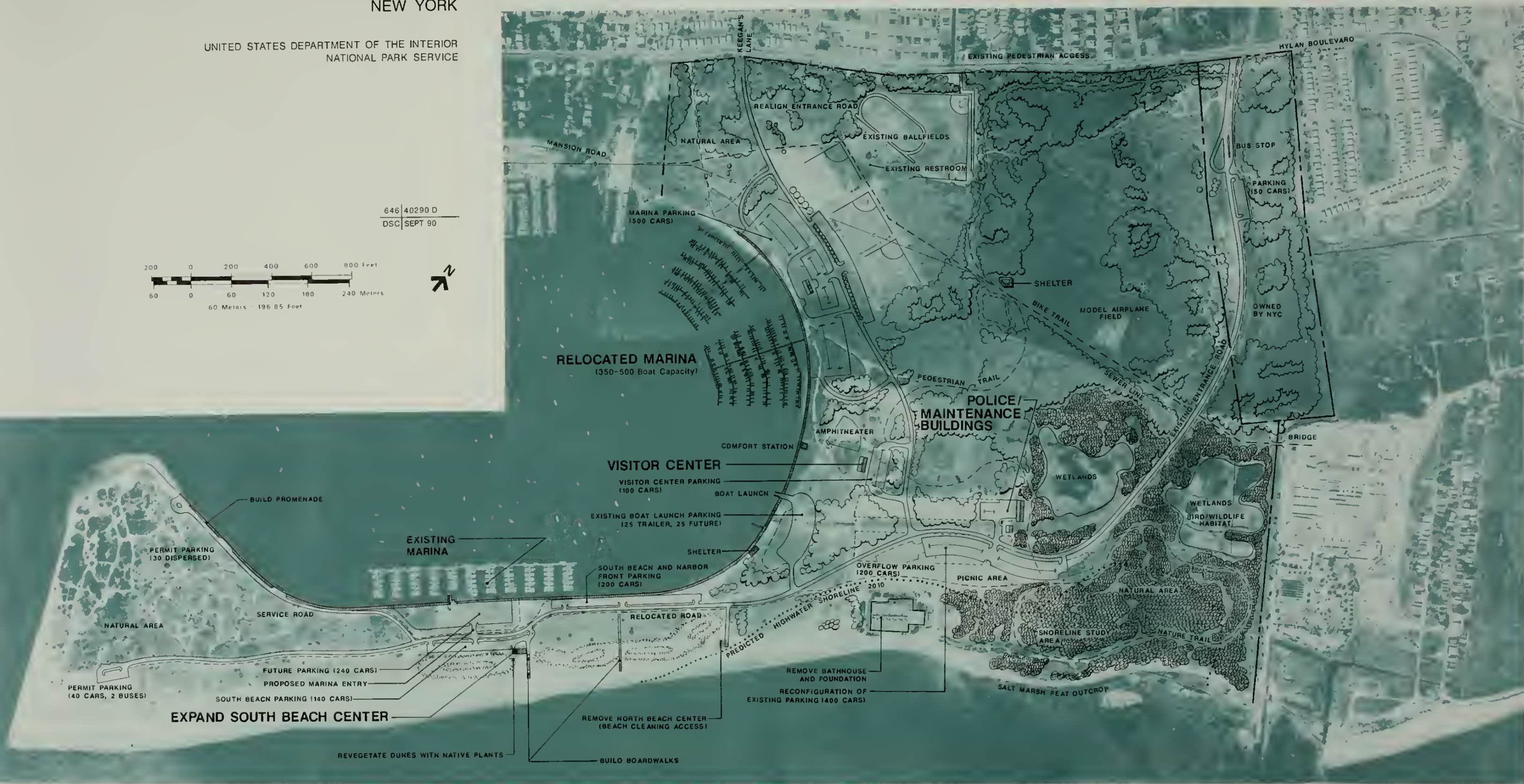
STATEN ISLAND UNIT
GATEWAY NATIONAL

UNITED STATES



STATEN ISLAND UNIT / GREAT KILLS PARK
GATEWAY NATIONAL RECREATION AREA
NEW YORK

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To meet the intended needs of the park unit and the anticipated interpretive program, the visitor center facility will include a reception area with space for exhibits, an educational room with a capacity of 80-100 people and fitted sinks and storage areas, a 150- to 200-person capacity multipurpose audiovisual room, lunchroom and kitchen facilities for use by staff and outside groups, and offices for interpretive and other park administrative and program staff. If an observatory is included in the design, there should be separate roof access to permit use by amateur astronomers when park staff is not present. Detailed specifications will be included in the interpretive prospectus that is being prepared concurrently with this plan.

CROOKES POINT

Parking at Crookes Point will be authorized on a permit basis. The existing parking lot will be edged to prevent vehicles from driving from the lot and damaging the dunes and vegetation.

The dune and shrub areas will be used for environmental education, and interpretive wayside exhibits will be placed at appropriate locations. Dunes behind the swim beach will be restored and stabilized with native vegetation and fencing. Groups will be able to use the beaches and dune areas for environmental education walks. High use areas will be posted to alert visitors to erosion problems. Wooden-slat boardwalks will be built over sensitive areas, and snow fences may be established to control random access to otherwise unprotected dunes. Swimming will not be permitted at the southern end of Crookes Point. Beaches south of those staffed with lifeguards will be posted to discourage high impact use.

The north beach center southwest of the existing bathhouse is in an area that is expected to be eroded in the next five years. This facility and its parking lot will be removed, and the south beach center on Crookes Neck will be expanded to include the facilities and services proposed for the bathhouse in the 1979 GMP (see the "Bathhouse" section for design details). The area where facilities were removed will undergo dune restoration and be revegetated.

Along the bulkhead west of the marina, the walking/biking promenade will continue to the mouth of the harbor. A new service road/bikeway with dispersed parking will also be provided for people with permit.

HARBOR AREA

Great Kills embraces a beautiful harbor, and the plan will enhance appreciation of this visual resource by establishing a surfaced and landscaped promenade with waysides around the inner harbor from Hylan Boulevard to Crookes Point. The promenade will accommodate fishermen and provide excellent views of boating and fishing activities. It will likely become a popular attraction for community residents and other park visitors.

The 1979 GMP called for reconstruction of the bulkhead around the harbor. The bulkhead has been rebuilt from Crookes Point to the existing marina and from the southeast side of the existing marina part way around the back of the harbor. The remaining 750-foot section of the seawall near the proposed marina is now being rebuilt (see the "Marina" section).

A 500-person capacity amphitheater with a performance area and grass-covered earth slope for seating is proposed near the harbor. The amphitheater will be used for community theater performances, concerts for children and adults, and interpretive programs. This amphitheater will be screened and enclosed with vegetation. A comfort station may be provided between the amphitheater and boat launch area if the visitor center does not prove adequate.

The two-lane boat launching ramp and associated parking recommended in the 1979 GMP was constructed and opened for public use in 1990.

The National Park Service desires a ferry service to transport recreation visitors to and from the park from other parts of the city. The location of a ferry docking facility is subject to further study.

At this time, the proposed use of Great Kills Park as a terminal for commuter ferry service is determined to be unacceptable. The development of new parking areas for commuter ferry service, the conflict of using proposed parking areas planned to meet recreation needs, and the ongoing construction and improvement program direct that conclusion. Once the elements proposed within this plan have been substantially implemented and tested, the question may be reconsidered.

MARINA

The concessioner-run marina on the east side of the harbor existed before the establishment of Gateway National Recreation Area. It has a 350-boat slip capacity and an upland boat storage and parking area. The 1979 GMP proposed moving the marina to the north side of the harbor for the following reasons:

Visitors driving to the marina must pass through the entire park, entering with beach traffic and further congesting Hylan Boulevard and the park entrance road. A relocated marina with separate access will greatly relieve traffic congestion.

Many community members have asked for a boat launch area with vehicle/trailer parking. The present marina does not have space for new parking areas. The proposed location will accommodate expanded parking for vehicles and trailers at the marina, for a boat launch site, dry dock storage, and other services.

Under the plan, the marina will be relocated to the site proposed in the 1979 GMP; the total number of boat slips will be no less than 350 and no more than 500.

Marina parking will be separated from ballfield parking to provide a greater measure of security for boaters. Parking and upland boat storage will be provided. Maintaining a minimum of 350 boat slips is justified based on boater demand over the past several years and the loss of private marinas in the area.

Much is unknown about the site of the proposed marina relocation. Because it will be on a former landfill site, in an area of uncertain and changing water depth, and exposed to westerly winds across Raritan Bay, a complete investigation and site feasibility study and a review of environmental compliance requirements must be conducted by the National Park Service

before this action can be further considered. Impacts and hazardous material exposures must be determined in the old landfill site; preliminary design must be completed to determine site suitability and impacts, as well as any harbor dredging and breakwater requirements. Finally, utilities and improved access must be brought to the site. This includes power, roads, and sewer. A water system exists at the site, but it may require upgrading. Once these studies and investigations are complete, a combined park/concessioner development strategy will be developed.

In the interim the marina will remain at its existing location. The slip capacity will remain unchanged (approximately 350), and the dry dock storage may be expanded to the west but not exceed the western limit of the slips.

UPLANDS

The five ballfields will be rehabilitated; however, the National Park Service will not develop new athletic fields at Great Kills. Future plans may call for lighted ballfields. A new, paved parking lot, approximately equal in size to the existing lot, will be constructed parallel to the new entrance road to serve athletic field users and spectators. An adjacent grass overflow lot could be paved in the future if there is sufficient demand to use this area for parking. The model airplane field will be retained in its present location.

The two wetland areas, which total about 75 acres, will continue to be protected as wildlife habitat. These areas, including the rainwater wetland, could attract an even greater variety of wildlife with selective planting of native vegetation. Any alteration to the wetland areas could jeopardize the existing bird and wildlife species and will require consultation with the U.S. Fish and Wildlife Service pursuant to wetlands protection requirements.

The existing hardwood vegetation east of Hylan Boulevard will screen road noise and act as a natural buffer for the uplands area.

ROADS AND TRAILS

The northern access road off Hylan Boulevard will continue to be the main park entrance. Fifty parking spaces with lighting should be established near the entrance for use by joggers. (City buses will also continue to use this area as a turnaround.) This road will provide access to the existing paved parking lot, a new visitor/interpretive center, a new public boat launch area, the Crookes Neck beach center, the Crookes Point beach and fishing area, and other facilities in the vicinity.

The southern access road at the Keegan's Lane intersection with Hylan Boulevard, which currently leads to the ballfields, will be realigned and paved for direct access to the relocated marina and field sports area. A bridge or culvert may be needed over the drainage channel between Hylan Boulevard and the new marina. This secondary entrance will greatly improve traffic safety and circulation by providing a road loop and two exits for use on peak traffic days. A gate just north of the public boat launch, where the new road will connect with the existing road, will permit park personnel to keep marina and beach traffic separate. Normally, marina traffic will be directed to the Keegan's Lane entrance, and beach traffic will use the main

entrance. However, in case of an accident, a sudden rainstorm, or unexpected congestion, both entrances will be available for exiting.

Following construction of the new Keegan's Lane entrance road, the old road alignment will be rehabilitated to create more natural area within the park (see the Proposed Plan map). In the interim, prior to any relocation of the marina to the north end of the harbor, limited road improvements and dispersed parking will be provided in that area.

Bicycling opportunities will be expanded. The sewer right-of-way that runs east-west through the center of the park will be repaved and designated as a class 1 (scenic and challenging) bike trail. This trail could be linked with city bike routes so that visitors can start at Fort Wadsworth, 7 miles to the northeast, and bike all the way through Great Kills Park. The Park Service will cooperate with the proper state and city agencies to develop the bikeway. To complete the trail to Mansion Road on the park's southwestern boundary, a bridge will have to be provided over a small creek and the existing fence will need to be opened.

The present jogging trail along the main park road is heavily used and will be extended to Crookes Point along the roadway and proposed promenade. Existing uplands walking trails will be maintained to make the park interior accessible to walkers and to lead to the high point of Great Kills Park, where there are some striking views of the harbor and ocean. The nature trail will be maintained in the eastern part of the park to interpret the salt marsh peat outcrop, the nesting area north of the trail, and the wave-induced erosion of the beach. Self-guiding interpretive signs will be placed along the trail.

A new service road/bikeway for use by emergency, police, and maintenance vehicles will be developed parallel to the harbor seawall. The road/bikeway will be separated from the proposed promenade by a grassy strip.

COSTS

NPS/congressional appropriations will be sought to provide the necessary levels of capital funding for construction at Great Kills Park. The amount required for marina relocation and development will depend on the information obtained from the future studies and the level of concessioner participation.

Cost estimates are classified as either preliminary or final. Preliminary estimates are based on broad quantities such as square feet or linear feet of construction. Final estimates are made only after all detailed engineering and architectural design work has been completed and all quantities are known. The following is a preliminary estimate based on 1990 costs. The total gross costs of the plan will be about \$23,711,000 (see table 1).

**Table 1: Gross Cost Estimates for Proposed Plan
(1990 Dollars)**

Item	Cost
Construct park police and maintenance facility (including a stable, a structure for combustible materials, and employee and visitor parking)	\$ 2,227,000
Construct new visitor center; develop interpretive exhibits and build amphitheater (including rehabilitation/construction of a small segment of road and revegetation)	3,406,000
Improve, construct, and/or relocate roads and parking (including parking for visitor center, improving and realigning main entrance road and secondary loop entrance road, a new entrance road to police/maintenance buildings, realigning road from the police/maintenance buildings to boat ramp, a road from the boat launch to the beach center and parking, upgrading the road from the beach center to Crookes Point, upgrading parking at the point, and improving the access road and parking along the inner harbor)	5,764,000
Develop pedestrian promenade/boardwalk along the inner harbor	2,004,300
Rehabilitate and expand Crookes Neck beach center	2,489,000
Upgrade sports area (including lighting for three ball parks, new restroom facilities, and parking and play equipment for children)	1,179,000
Develop bicycle paths and nature and jogging trails throughout Great Kills	1,349,300
Develop approximately 100 picnic sites and three to four shelters	576,400
Demolish bathhouse	2,096,000
Upgrade and/or construct utilities (including sewer, electricity, potable water, and telephone services)	<u>2,620,000</u>
TOTAL	\$ 23,711,000

* Gross construction costs include percentages (a total of 51 percent) for project planning, project supervision, and contingencies. All costs will be the responsibility of the Park Service.

Note: Until various studies are completed in the area for the new marina site (see pages 26-27), realistic costs for moving the marina cannot be estimated and are not included in this table.

COMPLIANCE STATUS

Great Kills is a public use/administrative site located primarily on land that has been extensively modified and occupied for at least 45 years. A large portion of the area was once a landfill. Under this plan existing structures at the site will be rehabilitated or demolished, and new structures will be built in areas already impacted by existing development. Consequently, further disturbance will have minimal impacts on natural resources and any currently unknown cultural resources, as documented in the "Environmental Consequences" section of the draft plan. Based on the level of impacts, this planning action qualifies as a categorical exclusion from NEPA procedures under 516 DM 6, appendix 7.4.A.(1): "changes or amendments to an approved plan, when such changes would cause no or only minimal environmental impact."

FLOODPLAINS AND WETLANDS MANAGEMENT

Executive Orders 11988, "Floodplain Management," and 11990, "Protection of Wetlands," direct federal agencies to avoid development in floodplains and wetlands whenever there is a practicable alternative and to avoid, to the extent possible, adverse impacts associated with the occupancy or modification of floodplains and wetlands. The U.S. Federal Emergency Management Agency has inventoried floodplains in this area, and the zones are depicted on the Floodplains map in the "Park Description" section.

The NPS facilities proposed in this document are functionally dependent on the waterfront. Therefore, no options for placement of facilities outside the 100-year floodplain in the project area are possible. New structures or rehabilitation of existing structures in the 100-year floodplain and high hazard areas will incorporate methods for protecting life and minimizing storm damage. No critical actions (e.g., storage of irreplaceable objects or documents) will occur in the 500-year floodplain. Flood-proofing will be an important design criterion. The park staff will cooperate with municipal and state agencies to develop and annually update the hurricane evacuation plan.

If further analysis indicates that a statement of findings is required, it will be prepared to document the rationale for locating structures and facilities within the floodplain and to identify mitigating actions to protect life and property. If the statement of findings is required, approval by the NPS director is required before implementation of the plan.

None of the proposed actions will result in significant long- or short-term adverse effects on wetlands. Rather, wetland values will be interpreted to further the public's appreciation of wetland communities.

COASTAL ZONE MANAGEMENT

Regulations implementing the Coastal Zone Management Act of 1972 require consistency with New York's coastal zone management program. State concurrence with a National Park Service determination of consistency is required as part of design plan approval.

ENDANGERED SPECIES

The U.S. Fish and Wildlife Service and National Marine Fisheries Service have advised that no federally listed or proposed endangered or threatened species under U.S. Fish and Wildlife jurisdiction live in or use the project area, except for occasional transients. Based on the determinations of the U.S. Fish and Wildlife Service (letter dated May 2, 1988) and the National Marine Fisheries Service (letter dated April 29, 1988), the National Park Service has determined that the proposed action will have no effect on endangered or threatened species or critical habitat of these species within the proposed project area.

OTHER COMPLIANCE CONSIDERATIONS

Water Quality

Construction of new facilities, removal of old facilities (bathhouse, barge pilings), and park operations will have little impact on water quality. NPS dredge, fill, and dock construction will comply with the requirements of section 404 of the Federal Water Pollution Control Act, section 10 of the Rivers and Harbors Act, and other applicable local, state, and federal regulations. Turbidity during construction will be limited by turbidity booms, silt fences, or other methods as necessary and will cause, at worst, only a temporary localized situation. Dredge spoil materials will be disposed of in appropriately contained upland sites, including sites within the park, in an effort to mitigate the effects of the rising sea level in accordance with federal and state permit requirements.

The proposed boat launching ramp, visitor services buildings, and parking areas will be designed to minimize contamination of waters in the harbor and uplands areas from rainwater runoff and to facilitate tidal flushing, as well as to control reflective wave action off bulkheads. Some release of petroleum products associated with normal boat use and maintenance will be unavoidable but would not be expected to significantly affect park land or water resources considering that current boat use and present operations do not demonstrate any significant adverse impacts on water quality.

In 1983 the National Park Service obtained a permit from the U.S. Army Corps of Engineers and a consistency determination from New York's Department of State for phases I and II of the rehabilitation and construction of the harbor bulkhead.

Substrate Analysis

As mentioned earlier, the area in which the proposed actions will be implemented was once an active landfill. During the design phase of implementation, it will be necessary to have core samples taken at various points where construction activity will disturb the surface and subsurface areas of the park. These samples will then be tested for hazardous materials to ensure that construction activities will not expose workers, staff, or visitors to potential problems. If results indicate that certain sites had or might have the potential of exposing hazardous materials, alternative project design and methods of construction will be identified and evaluated.

Soils

There will be no effect on prime or unique farmland soils because none exist at the site.

Cultural Resources

There are no properties in Great Kills Park that are listed on the National Register of Historic Places, and the Park Service has not identified any properties that are eligible for listing on the register.

Great Kills has undergone archeological surveys on various occasions, all with negative results. This was not unexpected as the site was used as a landfill for a number of years before being designated as a unit of Gateway National Recreation Area. Any archeological resources still intact would be either deeply buried or on the site periphery where construction activities are unlikely. Still, any ground-disturbing activities will be evaluated for potential impact to buried archeological features, and a program of archeological testing will be undertaken. If significant resources are encountered, construction activities will be halted until redesign or excavation mitigation can be completed. If such sites were subsequently determined eligible for inclusion on the National Register of Historic Places, the Park Service would undertake the steps necessary to have the site listed. A memorandum of agreement under the programmatic memorandum of agreement (PMOA) among the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation Officers, and the National Park Service was concluded on the Gateway National Recreation Area *General Management Plan*, February 23, 1981. Developments proposed in this document are in keeping with those outlined in the GMP and are not subject to further review by the state or the Advisory Council under the PMOA.

AGENCIES CONTACTED

National Marine Fisheries Service

N.Y. City Department of Ports and Terminals, Waterfront Development Group

N.Y. City Fire Department, Marine Division

N.Y. State Department of Environmental Conservation

N.Y. State Department of State

U.S. Army Corps of Engineers, Regulatory Branch

U.S. Fish and Wildlife Service

CONSULTATION AND COORDINATION

Copies of the draft *Amendment to the General Management Plan* were sent to the following agencies for review; they will also receive copies of this final plan for their information.

Federal Agencies

Department of Agriculture
 Soil Conservation Service
Department of the Army, Corps of Engineers
Department of Commerce
 National Oceanic and Atmospheric Administration,
 National Marine Fisheries Service
Department of Education
Department of Energy
Department of Housing and Urban Development
Department of the Interior
 Bureau of Land Management
 Fish and Wildlife Service
 Geological Survey
Department of Labor
Department of Transportation
 Coast Guard
 Federal Aviation Administration
 Federal Highway Administration
 Urban Mass Transit Administration
Environmental Protection Agency
Federal Emergency Management Agency
General Services Administration

New York State Agencies

Department of State
Regional Clearinghouse

New York City Agencies

Department of City Planning

The following agencies will be sent informational copies of this amendment:

Advisory Council on Historic Preservation
New York State Historic Preservation Officer

BIBLIOGRAPHY

ALLEN, J.R.

- 1985 "Draft Summary, Great Kills (GATE) Bathhouse Erosion." Prepared for the National Park Service. On file at Gateway National Recreation Area, Brooklyn, N.Y.

CORPS OF ENGINEERS, U.S. DEPARTMENT OF THE ARMY

- 1976 "Staten Island, New York, Fort Wadsworth to Great Kills Park, Beach Erosion and Hurricane Protection Project, General Design Memorandum No. 1, Fort Wadsworth to Arthur Kill, Appendix I, Environmental Analysis."

This document contains lists of vegetation, birds, mammals, amphibians, reptiles, finfish, and benthic invertebrates on Staten Island and in adjacent waterways.

JOHNSON, SIDNEY M.

- 1985 "Structural Engineering Services for the Beach and Bathhouse Facility at the Gateway National Recreation Area, Staten Island, New York." Prepared for the National Park Service. On file at Gateway National Recreation Area, Brooklyn, N.Y.

NATIONAL PARK SERVICE, U.S. DEPARTMENT OF THE INTERIOR

- 1978 *Statement for Management and Environmental Assessment, Gateway National Recreation Area, New York/New Jersey.* Denver Service Center, Denver, Colo.
- 1979a *Final Environmental Statement for the General Management Plan, Gateway National Recreation Area, New York/New Jersey.* Denver Service Center, Denver, Colo.
- 1979b *General Management Plan, Gateway National Recreation Area, New York/New Jersey.* Denver Service Center, Denver, Colo.
- 1987 "Concessions Economic Feasibility Study, Great Kills Marina, Staten Island Unit (GATE)." On file at Gateway National Recreation Area, Brooklyn, N.Y.
- 1989 "Update of 1987 Feasibility Study, Great Kills Marina." On file at Gateway National Recreation Area, Brooklyn, N.Y.

PLANNING TEAM

Denver Service Center

Michael S. Bilecki, Team Captain, Natural Resource Specialist
Mark Pritchett, Landscape Architect

Gateway National Recreation Area

Robert McIntosh, Superintendent
Jose Rosario, Superintendent, Staten Island Unit
Dr. John Tanacredi, Chief, Division of Natural Resources
Lee Hanson, Former Unit Manager, Staten Island

North Atlantic Regional Office

Terry Savage, Chief of Planning and Design
Robert Holzheimer, Division of Planning
Dave Clark, Compliance Coordinator



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Publication services were provided by the graphics and editorial staffs of the Denver Service Center. NPS D-122A October 1990

